**Academic Olympics Preliminary Written 2012**

1. Cytokinesis enables a cell to \_\_\_\_\_\_\_\_\_\_

A. divide C. excrete wastes E. manufacture enzymes

B. store oxygen D. synthesize proteins

2. Who crowned himself?

A. Julius Caesar C. Ferdinand of Aragon E. Prince Henry the Navigator

B. Napoleon Bonaparte D. William the Conqueror

3. Multiply 111 base 2 times 11 base 2

A. 1101 B. 10101 C. 10010 D. 100101 E. 110100

4. Which headline does not include a pun?

A. Dutch Head Seeks Arms C. Tuna Biting Off Washington Coast D. New Autos Hit Five Million

B. Asian Family Living in Squalor E. Doctor Testifies in Horse Suit

5. Who was the Prince of Shadows?

A. Rembrandt C. Auguste Rodin E. Leonardo Da Vinci

B. Pablo Picasso D. John Constable

6. Dissolved substances pass through cell membranes by means of \_\_\_\_\_\_\_\_\_\_

A. diffusion B. ingestion C. circulation D. respiration E. transpiration

7. The largest population of American Indians is in California. The second largest is in \_\_\_\_\_\_\_\_\_\_

A. Nevada B. Colorado C. Oklahoma D. Arkansas E. South Dakota

8. The approximate radius of a circle with an area of 113 square feet is \_\_\_\_\_\_\_\_\_\_ feet.

A. 5 B. 6 C. 7 D. 8 E. 9

9. In “The Tempest”, Caliban is the son of the wicked witch \_\_\_\_\_\_\_\_\_\_

A. Luciana B. Proteus C. Sycorax D. Violenta E. Andronicus

10. Your commercial artist has just dropped a swatch off for your approval. She left a \_\_\_\_\_\_\_\_\_

A. bid B. color sample C. transparency D. preliminary sketch

E. detailed mock-up of a layout

11. In a solution, a strong acid or a strong base is completely \_\_\_\_\_\_\_\_\_\_

A. hydrolyzed B. neutralized C. crystallized D. dissociated E. precipitated

12. Wood from trees in the tropical forests of Africa is valued for \_\_\_\_\_\_\_\_\_\_

A. bridge building B. burning as fuel C. making furniture D. making fine paper

E. home construction

13. Who made first use of deductive logic?

A. Pythagoras C. Rene Descartes E. Gottfried von Leibnitz

B. John Napier D. Cyrus the Great

14. Who defined admiration as our polite recognition of another man’s resemblance to ourselves?

A. H.G. Wells B. Ambose Biece C. Benjamin Franklin D. Ralph Waldo Emerson

E. Henry Wadsworth Longfellow

15. An ornate tent typical of those used during the Middle Ages is a \_\_\_\_\_\_\_\_\_\_

A. pavilion B. basilica C. hacienda D. propylaeum E. proscenium

16. If the electric potential between the plates of a capacitor is doubled and the area of the plate separation

of the capacitor remains the same, the stored energy will be \_\_\_\_\_\_\_\_\_\_

A. the same B. divided by two C. divided by four D. multiplied by two E. multiplied by four

17. Very conservative candidates are \_\_\_\_\_\_\_\_\_\_ wing.

A. left B. high C. right D. mono E. black

18. What is y in 5 – ( 3y – 1) = 25 ?

A. -2 B. -3 C. -4 D. -5 E. -6

19. The Spanish proverb, “Mas ven cuatro ojos que dos” means the same thing as which Latin statement?

A. Tempus Omnia relevat D. Qui tacet, consentire videtur

B. Poeta nascitur, non fit E. Plus vident oculi quam oculus

C. Bibramus, moriendum est

20. Which was not composed by Stephen Foster?

A. Dixie B. Camptown Races C. Old Folks at Home D. My Old Kentucky Home

E. Jeanie with the Light Brown Hair

21. The momentum of an object can be calculated by multiplying its mass by its \_\_\_\_\_\_\_\_\_\_

A. inertia B. velocity C. acceleration D. time of travel E. distance traveled

22. In late 1995, the U.S. Senate adopted legislation permitting states to \_\_\_\_\_\_\_\_\_\_

A. ban militia groups D. set their own speed limits

B. mint their own coins E. liberalize capital punishment

C. tax interstate commerce

23. If the five digits 34567 continue to repeat, what will be the digit in the 28th  place to the

right of the decimal point?

A. 3 B. 4 C. 5 D. 6 E. 7

24. What philosopher wrote, “If no practical difference can be traced between alternatives, then the alternatives

mean practically the same thing, and all dispute is idle”?

A. Zeno of Elea B. William James C. Jean Paul Sarte D. Thomas Aquinas

E. Ralph Waldo Emerson

25. Paul Gauguin is noted for his paintings of \_\_\_\_\_\_\_\_\_\_

A. Hawaii B. Iwo Jima C. the Moluccas D. American Samoa E. French Polynesia

26. An anchored sloop rises and falls once every four seconds as waves with crests 30 meters apart pass

under it. These waves have a velocity of how many meters per minute?

A. 350 B. 450 C. 550 D. 650 E. 750

27. Express as a base 7 numeral the number of days it rained in the story of Noah?

A. 46 B. 34 C. 55 D. 61 E. 36

28. What was the main religion of early China?

A. Islam B. Shinto C. Taoism D. Christianity E. Zoroastrianism

29. Most Africans living south of the equator speak the language of \_\_\_\_\_\_\_\_\_\_

A. Vedic B. Bantu C. Arabic D. Saharan E. Cameroon

30. The “Marriage of Figaro” is a sequel to \_\_\_\_\_\_\_\_\_\_

A. Parsifal B. Rigoletto C. The Valkyrie D. The Barber of Seville

E. The Merry Wives of Windsor

31. Isotonic solutions have equal \_\_\_\_\_\_\_\_\_\_

A. volumes B. temperatures C. mass numbers D. osmotic pressures

E. number of electrons

32. If you take am 8” square sheet of paper, fold it in half five times and unfold it, how many 1” by 2”

rectangles are formed by the fold lines?

A. 16 B. 32 C. 64 D. 128 E. 256

33. The Upanishads are complex philosophical explanations of the \_\_\_\_\_\_\_\_\_\_ religion.

A. Vedic B. Shinto C. Taoist D. Islamic E. Zoroastrian

34. Daniel Chester French is mainly remembered for his sculpture \_\_\_\_\_\_\_\_\_\_

A. of the Thinker C. entitled “Hermes” E. in the Lincoln Memorial

B. of Mt. Rushmore D. on Bedloe’s Island

35. Which has the lowest average elevation

A. Maine B. Nevada C. Florida D. Virginia E. Delaware

36. An esker consists of \_\_\_\_\_\_\_\_\_\_

A. boulders B. mud and clay C. hydrocarbons D. sand and gravel E. mineralized veins

37. A househusband wishes to borrow a sum of money for 120 days. He goes to a bank whose rate is 6%.

He pays $360 in interest. How much does the man borrow?

A. $11,200 B. $15,050 C. $18,000 D. $14,050 E. $17,000

38. Marquetry involves \_\_\_\_\_\_\_\_\_\_

A. slip and glaze B. woven fabrics C. exotic veneers D. engraved metals E. decorative knots

39. A wartime amphibious landing was made at \_\_\_\_\_\_\_\_\_\_

A. Inchon B. Verdun C. Nagasakai D. Bastogne E. Stalingrad

40. What occurred during the Quaternary Period?

A. Pangaea formed D. shallow seas covered Europe

B. continents were raised E. great swamp-forests at their peak

C. ice-age glaciers melted

41. The two states with the greatest production of iron ore are \_\_\_\_\_\_\_\_\_\_

A. Kansas and Nebraska D. Arizona and New Mexico

B. Oregon and Washington E. Vermont and New Hampshire

C. Michigan and Minnesota

42. Sarah walked the diameter of a circle with a five foot radius, then along the circle to a point perpendicular

to the center of the diameter, and back to the center. She walked how many feet?

A. 18.45 B. 19.95 C. 20.15 D. 21.45 E. 22.85

43. A short line added when necessary above or below the lines of a musical staff to increase the range of the

staff is a \_\_\_\_\_\_\_\_\_\_

A. clef B. legato C. quaver D. ledger line E. signature line

44. Which region of the brain controls the activity of internal organs?

A. cerebrum B. optic lobe C. olfactory lobe D. cerebral cortex E. medulla oblongata

45. Which noun is not paired with a name?

A. Seward’s folly D. Diogenes’ lantern

B. Down syndrome E. McGuffey’s reader

C. Fermat’s finches

46. Which equation produces a straight liner sloping from the upper left to the lower right?

A. y = 2x B. y = ½ x C. y = -x + 2 D. y = x cubed E. y = 8x – x squared

47. The crowning masterpiece of what impressionist painter was “a Bar at the Folies – Bergere”?

A. Salvador Dali D. Benvenuto Cellini

B. Edouard Manet E. Christopher Wren

C. Winslow Homer

48. Underlying the continents is a crustal layer composed mainly of granite. Below this continental rock

is a layer of denser rock with is chiefly \_\_\_\_\_\_\_\_\_\_

A. talus B. basalt C. scoria D. amphibole E. serpentine

49. Which lawyer defended Jack Ruby?

A. Melvin Belli D. Charles Evans Hughs

B. Samuel Chase E. William Jennings Bryan

C. Frank B. Kellogg

50. A sigmoid growth curve results from graphing the two factors of time and \_\_\_\_\_\_\_\_\_\_

A. body weight D. radioactivity levels

B. population size E. frequency of comets

C. free-fall velocity

**Answers:**

**1. A 11. D 21. B 31. D 41. C**

**2. B 12. C 22. D 32. B 42. E**

**3. B 13. A 23. C 33. A 43. E**

**4. B 14. B 24. B 34. E 44. E**

**5. A 15. A 25. E 35. E 45. C**

**6. A 16. E 26. B 36. D 46. C**

**7. C 17. C 27. C 37. C 47. B**

**8. B 18. E 28. C 38. C 48. B**

**9. C 19. E 29. B 39. A 49. A**

**10. B 20. A 30. D 40. C 50. B**